#16
Supp. Brief
10-9-03
a.p.a.

IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

APPLICANT:	Laddie L. James	TITLE:	Improved Tack Spraying Apparatus
SERIAL NO.:	09/642,868	ART UNIT:	3752
FILING DATE:	November 1, 2000	EXAMINER:	Nguyen, Dinh Q.
DOCKET NO.:	9066.002		

SUPPLEMENTARY BRIEF IN SUPPORT OF APPEAL

The Honorable Commissioner of
Patents and Trademarks
Mail Stop Appeal Briefs - Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The applicant hereby requests that its appeal be reinstated. This supplementary brief is in support of the applicant's appeal. A petition for a one (1) month extension of time and the fee for the same is submitted herewith. If any additional extension of time is required, please consider this a request therefor. No additional fees are believed to be due at this time; however, if any are due the Commissioner is authorized and respectfully requested to charge the same to deposit account no. 18-2210.

The examiner's rejections are respectfully traversed, and the Board is respectfully requested to reverse the examiner's rejections of the applicant's claims for the reasons detailed below.

I. Real Party in Interest

The real party in interest is Laddie L. James

II. Related Appeals and Interferences

None.

III. Status of Claims

Claims 1-4 and 12-16	Rejected for lack of novelty under 35 U.S.C. § 102
Claims 1-21	Rejected for obviousness under 35 U.S.C. § 103

IV. Status of Amendments

No amendments have been filed subsequent to the entry of the final office action.

V. Summary of the Invention

The invention is a tack spraying device. It includes an engine that is mountable on a vehicle such as truck 2. Typically, the engine will be the engine that powers the vehicle. The engine must be a kind that generates exhaust gases, such as a combustion engine. The engine must have an exhaust pipe 13 which is connected by an exhaust line 14 to a storage tank 1. Tack 5 is kept in storage tank 1, and storage tank 1 must be suitable for storing tack 5 under pressure. Exhaust line 14 will allow exhaust gases to be vented into storage tank 1, whereby storage tank 1 may be pressurized. Finally, there is a second line 19 that connects storage tank 1 to a spray nozzle 22. The pressure in tank 1 from the exhaust fumes will provide the motive force for expelling tack 5 from tank 1 through spray nozzle 22 and onto a desired surface. Nozzle 22 is appropriately sized to prevent polymer balls in tack 5 from clogging nozzle 22. *See*, Specification, pg. 5, ln. 5 -- pg. 9, ln. 12; *See, also*, Figures 1-5.

VI. Issues

Whether claims 1-4 and 12-16 are anticipated under 35 U.S.C. § 102.

Whether the examiner has established a *prima facie* case that claims 1-21 are obvious under 35 U.S.C. § 103.

VII. Grouping of the Claims

The claims may be properly grouped as follows:

1.	Claims 1-4 and 12-16	These claims do not rise or fall with any other claims.
2.	Claims 5-6 and 17-18	These claims do not rise or fall with any other claims, except to the extent that they would be allowable if the claims on which they depend are found to be allowable.
3.	Claims 7-8 and 19-21	These claims do not rise or fall with any other claims, except to the extent that they would be allowable if the claims on which they depend are found to be allowable.
4.	Claims 9, 10, and 11.	These claims do not rise and fall with any other claims.

VIII. Argument

A. Claim 1-4 and 12-16

Claims 1 and 13 are independent claims. They are set out below.

1. A tack spraying device mounted on a vehicle comprising:

a. an engine having an exhaust pipe for emitting exhaust gases during the operation of the engine, the engine being mountable to the vehicle,

b. a storage tank for maintaining tack material stored in the storage tank under pressure;

c. a first line connecting the exhaust pipe of the engine to the storage tank in a manner to permit transfer of the engine exhaust to the interior of the storage tank and to serve as a source of the pressure within the

13. A motorized tack spraying vehicle comprising a engine-driven moving vehicle, said engine having an exhaust pipe, a tack material storage tank mounted to the vehicle for maintaining tack material stored in the storage tank under pressure during operation, a first line connecting the exhaust pipe of the vehicle engine to the storage tank in a manner to permit transfer of the engine exhaust to the interior of the storage tank and to serve as a source of pressure with the storage tank, and a second line connecting the storage tank to a spray nozzle in a manner to transfer the tack material in the storage tank to the spray nozzle.

storage tank, and

d. a second line connecting the storage tank to a spray nozzle in a manner to transfer the tack material in the storage tank to a spray nozzle.

As can be seen from the foregoing, claims 1 and 13 differ from one another primarily in that claim 1 is drawn only to the tack spraying device while claim 13 is drawn to a vehicle that includes a tack spraying device. These independent claims are obviously of differing scope, but can be discussed together in view of the deficiencies in the art cited by the examiner.

1. The Examiner's § 102 Rejection of Claims 1-4 and 12-16 in View of Herzog

The examiner has rejected claims 1-4 and 12-16 under 35 U.S.C. § 102 for anticipation in view of U.S. Patent 5,552,543 to Herzog. However, as the examiner is aware, a rejection under § 102 is improper if even one element of the claim is not found in the prior art. MPEP § 2131. Claims 1 and 13 each require a second line connecting the storage tank to a spray nozzle "in a manner to transfer the tack material in the storage tank to the spray nozzle." That is, the rejected claims require the structure to be able to transfer tack. This is a functional limitation. It defines the invention by what it does, rather than what it is. MPEP § 2173.05(g). There is nothing improper about a functional limitations, *per se*. Rather, functional limitations must be evaluated and considered just like any other limitation for what they fairly convey. Id.

The examiner has attempted to disregard the functional limitations in the rejected claims, citing MPEP §§ 2114 and 2115. However, this is improper. The CCPA and the Federal Circuit have repeatedly held that the Patent Office cannot ignore functional limitations. *See, e.g.*, In re

Stencel, 828 F.2d 751, 755 (Fed. Cir. 1987); Application of Echerd, 471 F.2d 632, 635 (CCPA 1973); Swengal v. Burkig, 455 F.2d 577, 582 (CCPA 1972); Application of Wilson, 424 F.2d 1382, 1385 (CCPA 1970).

Moreover, the preamble of both claims 1 and 13 explicitly recite a "tack spraying device/vehicle." The rest of the claims include repeated reference to "tack." The patent application as a whole refers to tack applying devices. Accordingly, the claimed invention is plainly limited to a device for applying tack. *See*, In re Paulsen, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994)(viewing patent as a whole to determine whether preamble was limitation and holding that preamble was limitation). No tack spraying device is disclosed in the allegedly anticipatory reference, Herzog.

In addition to the cases cited above, the MPEP also makes clear that functional limitations may not be disregarded. *See*, MPEP § 2111.02. Rather, the MPEP explains that the prior art meets the claim only if "the prior art structure is capable of performing the intended use" of the claim. Id. This is the rub. There is nothing in Herzog which suggests that it is capable of applying tack. Herzog is a device for applying *water*. Water is a very different material than tack. Tack is much more viscous than water. The fact that a device is capable of pumping and spraying water does not indicate that it will also be suitable for pumping and spraying tack.[1]

The examiner has not attempted to *show* that Herzog is capable of performing the intended function recited in the claims. Rather, the examiner has simply made the bald assertion that Herzog "is inherently capable of dispensing liquids other than water such as, for example, tack material."

---

1. The water gun I had as child worked great for pumping and spraying water. Perhaps not surprisingly but certainly disappointingly, its performance declined dramatically when I loaded it with syrup.

In response, the applicant first notes that he agrees that Herzog is almost certainly capable of dispensing "liquids other than water." The fact that Herzog is capable of dispensing water certainly suggests that it is capable of dispensing liquids with viscosities similar to or less than that of water. Herzog would probably work well at dispensing alcohol if one ever wanted to spray it out of a truck. However, that does not suggest that Herzog would be capable of pumping and spraying liquids with viscosities *higher* than water such as, for example, tack.

Second, the applicant notes that the examiner has not provided any rationale or evidence to support his conclusion that the device of Herzog is inherently capable of pumping and spraying tack. In the absence of such rationale or evidence, the examiner's inherency argument is not well founded and should be withdrawn. MPEP § 2112.

In sum, the examiner has not established that Herzog teaches, explicitly or inherently, a device capable of transferring or spraying tack. This is expressly required by independent claims 1 and 13. In the absence of such a showing, the examiner has not established that Herzog anticipates claims 1, 13, or any of the claims that depend from them. Accordingly, this rejection should be withdrawn.

2. The Examiner's § 103 Rejection of Claims 1-4 and 12-16 in view of Herzog as Combined with Kirchner

The examiner has rejected claims 1-4 and 12-16 for obviousness in view Herzog as combined with U.S. Patent 4,828,429 to Kirchner. Herzog teaches the use of exhaust gasses to provide the pressure for the application of ***water***. Herzog, Col. 2, ll. 15-41. Kirchner discloses a method of applying tack with a conventional pump. Kirchner, Col. 2, ll. 6-14.

When rejecting claims for obviousness under § 103, the examiner has the burden of

establishing a *prima facie* case of obviousness. MPEP § 2142. The examiner has failed to meet his *prima facie* burden for several reasons.

When a *prima facie* case of obviousness is based upon a combination of references, the examiner must show, *inter alia*, that the prior art teaches or suggests a reason for the combination. In re Mills, 916 F.2d 680, 682 (Fed. Cir. 1990); MPEP § 2143.01. The examiner cannot use the applicant's invention as a template to simply piece the prior art together. In re Gorman, 933 F.2d 982, 987 (Fed. Cir. 1991); MPEP § 2141 (forbidding hindsight combinations). Rather, the basis for the combination must be found in the prior art.

The examiner has now provided no less than three separate rationales for his combination of Kirchner with Herzog. (*See*, Paper No. 6, p. 3; Paper No. 9, pp. 2-3; and Paper No. 14, p. 4.) Each has been in conflict with the MPEP, and each has been abandoned for its successor upon the issuance of a new office action by the examiner. Such *ex post facto* reasoning is the hallmark of forbidden hindsight combinations. The latest iteration of the examiner's basis for combining Kirchner and Herzog is set out below:

> Kirchner discloses a tack-spraying vehicle having an engine with exhaust pipe, a storage tank 84 for maintaining tack-spraying material. Kirchner does not disclose transfer of engine exhaust to pressurize to (*sic*) the storage tank. However, Herzog teaches the use of a pressurization system using exhaust gases for dispensing a liquid, a pressure relief valve 43; and operating pressures of up to 35 PSI (column 2, line 7). Therefore, it would have been obvious to one having ordinary skill in the art to modify the liquid dispensing system of Kirchner by replacing the pump 34 with a pressurization system using exhaust gas as taught by Herzog *in order to simplify the system by elimination of the need for a pump*. (column 1, lines 35-68).

Examiner's June 3, 2003, Office Action, p. 4 (paper no. 14)(*emphasis added*).

While this rationale is different from the explanations previously advanced by the examiner, it too is directly prohibited by the MPEP. In particular, MPEP §2143.01 provides that if a

"proposed modification or combination of the prior art would *change the principle of operation of the prior art invention being modified*, then the teachings of the reference are not sufficient to render the claims *prima facie* obvious." (emphasis added).

The examiner's proposed modification would change Kirchner from a pump driven tack applicator to an exhaust driven tack applicator. This constitutes a major change in the principle of operation of Kirchner and is alone sufficient to reject the examiner's reasoning for what it plainly is: an after the fact explanation of his hindsight combination. However, the damage done to the operating principles of Kirchner by the examiner's modifications does not stop there.

Kirchner is a portable tack applicator that can be moved from tack truck to tack truck. Prior to Kirchner, tack would be brought on site in one truck and then transferred to a pump driven applicator truck. Kirchner attempts to do away with the need for the applicator truck by providing a portable pump driven applicator that can be moved from truck to truck. Thus, Kirchner allows the trucks that bring the tack to the job site to be used to apply it. Portability and interchangeability are the central features of Kirchner.

In the modification suggested by the examiner, the portable pump of Kirchner will be eliminated and replaced with an exhaust driven system. An exhaust driven system requires the *truck's engine and exhaust system* to be modified so that the exhaust gasses are delivered to the truck's cargo tank. The whole purpose of Kirchner is to provide a tack application system that can simply be moved from one truck to another. However, the examiner's proposed modification would require the transport trucks to be redesigned before the examiner altered Kirchner applicator would work with them. Obviously, requiring the fleet of tack transport trucks to be retrofitted to work with the examiner modified Kirchner tack applicator would defeat the principle goal of

Kirchner. Such a modification simply is not taught or suggested in the prior art.

3. Other Failings of the Examiner's *Prima Facie* Showing With Respect to Herzog as Combined with Kirchner

To establish his *prima facie* case, the examiner must also show that there would have been a reasonable expectation of success. MPEP § 2143. However, there is no reason -- and certainly the examiner has not cited any such reason in the prior art -- for one to expect that the use of exhaust gasses to pressurize and apply tack would be successful. Herzog certainly does not provide a basis for one to expect that its teachings could be utilized successfully in the application of tack. Herzog deals exclusively with the application of water. Tack is a substantially different material than water. It is much more viscous, and thus can be more difficult to pump. Tack is also more likely to congeal than water, again making pumping difficult. *See, e.g.*, Kirchner, Col. 1, ll. 20-23. The mere fact that one might be able to use engine exhaust to pressurize and apply *water* does not mean that similar methods would be expected to work in the application of tack. In the absence of some showing by the examiner that one reasonably skilled in the art would have expected the use of engine exhaust to pressurize and apply tack to be successful, the examiner has not met his *prima facie* burden and his rejection should be overturned.

To establish a *prima facie* case of obviousness, the examiner must also show that the prior art suggests the *desirability* of the claimed invention. MPEP § 2143.01. Nothing in the prior art suggests the desirability of using the pressurization technique of Herzog to apply tack, nor has the examiner pointed to any such teaching or suggestion. Similarly, nothing in Kirchner teaches or suggests the desirability of pressurizing tack with exhaust gases, nor has the examiner pointed to any such teaching. In the absence of such a showing, the examiner simply has not established a

prima facie case of obviousness.

For the reasons stated above, the examiner has not established a *prima facie* case that independent claims 1 and 13 and the claims that depend therefrom are obvious. Therefore, the applicant requests that the rejections for all claims be withdrawn.

4. <u>The Examiner's Rejection of Claims 1-4 and 12-16 in View of Herzog, Furman and Haupt under § 103</u>

The examiner has rejected claims 1-4 and 12-16 under 35 U.S.C. § 103 in view of Herzog as combined with U.S. Patent 3,425,407 to Furman and U.S. Patent 2,076,780 to Haupt. Herzog is discussed above. Furman teaches the use of the exhaust from a tractor to atomize farm chemicals or combustible materials. The tractor driver then uses the device of Furman either as a spray applicator for the farm chemicals or as a kind of flame thrower. *See*, Furman, Col. 2, ll. 10-57.

Haupt teaches the use of a burner to generate hot combustion gasses. These gasses are pumped through a serpentine exhaust line that runs through a tack tank. The exhaust line of Haupt serves as a heat exchanger to keep the tack from congealing; however, the exhaust line does not empty into the tank. Nor does Haupt teach the use of the combustion gasses to pressurize the tank or to discharge tack from the ~~tack~~ tank. Rather, a pump is used to remove tack from the tank and apply the same via a spray bar with nozzles. *See*, Haupt, Figs. 1 and 4; Col. 3, ln. 71 - Col. 4, ln. 10; Col. 6, ll. 25-35.

The examiner contends that the combination of Herzog, Furman and Haupt render the applicant's invention obvious. In particular, the examiner argues that:

> it would have been obvious to one having ordinary skill in the art to have provided the device of Herzog with a tack material for spraying as suggested by Furman (using exhaust gas to pressurize a liquid within a storage tank) and Haupt (pressurized an asphalt tank to force the asphalt to spray bars 23a and 23b to spray

a road surface). Doing so would provide a way to pressurize a liquid within a tank (Furman's column 2, line 11-14) and forcing the liquid to the spray bars (Haupt's column 3, lines 25-27)[2].

Examiner's June 3, 2003, Office Action, p. 5-6 (paper no. 14).

In response, the applicant first notes that the examiner has not cited any *reason* for combining these references. Rather, the examiner has merely stated what he believes would occur if the references were combined. With respect to Herzog and Kirchner, discussed *supra*, the reason the examiner gave for combining these references was to simplify the design of Kirchner by eliminating the pump. Improper as it was, this was at least a reason for the combination. Here, the examiner has provided nothing from the prior art to suggest why one would be motivated to use the exhaust driven systems of Herzog or Furman to replace the pump driven system of Haupt. Nor has the examiner cited anything in the references to suggest why one would be motivated to use the exhaust driven systems of Herzog or Furman to pressurize and apply tack. In the absence of such a showing, the examiner simply has not established a *prima facie* case of obviousness with respect to these reference. MPEP §§ 2143, 2143.01.

What the examiner has provided with respect to Herzog, Furman, and Haupt is a statement of what the examiner believes would result if these references were combined. This is, at most, simply a statement that the references can be combined. The applicant notes that this is not sufficient to establish a *prima facie* case of obviousness. MPEP § 2143.01.

---

2. The applicant is not sure what the examiner is referencing here. *Column 3*, ll. 25-27 of Haupt reads: "It will be understood that any mention of detail in the above is not exclusive, and that other objects, as well as the means for accomplishing them . . ." On the other hand, Column 6, ll. 25-27 on *page 3* of Haupt does refer to forcing tack to and through a spray bar. However, the motive force discussed therein for driving the tack is a rotary pump 38.

The applicant also questions what value Furman adds to the analysis. Herzog already establishes that it is known in the prior art to use combustion engine exhaust to pressurize and apply low viscosity liquids such as water. Furman teaches the use of engine exhaust to pressurize, atomize, and apply other low viscosity fluids. (*e.g.*, gas oils and light distillates - *See*, Col. 2, ll. 35-40). Furman neither expressly nor implicitly teaches anything about the use of engine exhaust to pressurize and apply high viscosity liquids such as tack, nor has the examiner pointed to anything in Furman which would suggest that engine exhaust can be used to pressurize and apply high viscosity liquids in general or tack in particular. Furman, thus, appears to be wholly redundant in view of Herzog when applied to the applicant's invention.[3, 4]

Even if the teachings of Herzog, Furman and Haupt could be properly combined, their aggregate teachings would not meet the examiner's *prima facie* burden. In combination, these references establish: (1) engine exhaust can be used to pressurize and apply low viscosity fluids such as water; (2) engine exhaust can (not surprisingly) also be used to pressurize and apply other low viscosity fluids; (3)(a) hot combustion gasses may be pumped through the lines of a heat exchanger running through a tack tank in order to keep the tack from congealing; and (3)(b) a rotary pump may be used to extract the tack from the tank and apply it, if the tack is kept warm. Putting all this together, there is still no suggestion that one could use engine exhaust to pressurize

---

3. The examiner's combination of Furman and Herzog is particularly puzzling to the applicant. To use the water gun analogy again, it is as if the examiner were contending, "here's a water gun that can squirt water and here's one that can squirt diesel; therefore, its reasonable to expect water guns to be able to squirt syrup."

4. Furman also appears to be non-analogous art. *See*, MPEP § 2141.01(a). Furman, should be excluded from the § 103 analysis for this reason as well.

and apply tack.

To the contrary, Herzog and Furman teach nothing about the application of tack while the extreme measures exhibited in Haupt only serve to illustrate the inherent difficulty in applying tack. In the absence of a reasonable expectation, based in the prior art, that engine exhaust could be used to successfully pressurize and apply tack, these references cannot support a *prima facie* case of obviousness. MPEP §§2143, 2143.02. No such showing has been made. For this reason as well, the examiner has not established a *prima facie* showing of obviousness based on Herzog, Furman and Haupt.

B. <u>The Examiner's Rejection of Claims 5, 6, 17 and 18 in View of Herzog, Kirchner, Furman, Haupt and Clark under § 103</u>

The examiner has rejected claims 5, 6, 17, and 18 in view of the combination of Herzog, Kirchner, Furman, Haupt, and U.S. Patent 5,957,621 to Clark. The rejected claims recite the inventor's preferred application rates as additional limitations. Clark discloses an application rate of between 0.15 and 0.65 gallons per yard. *See*, Clark at Col. 4, ll. 59-67. These rates are an *order of magnitude higher* than the 0.02 to 0.08 gallons per square yard recited in the rejected claims.

To establish a *prima facie* case of obviousness, the examiner must show that "the prior art reference (or references when combined) . . . teach or suggest all of the claim limitations." MPEP § 2143; *See, also*, MPEP § 2143. The multi-patent combination cited by the examiner of Herzog, Kirchner, Furman, Haupt, and Clark does not teach the application rate limitations of claims 5, 6, 16, and 17. Accordingly, the examiner has not established a *prima facie* case of obviousness with respect these claims.

To establish a *prima facie* case of obviousness, the examiner must also show that the prior

art teaches or suggests the combination or modification. MPEP §§ 2143, 2143.01. The deficiencies of the examiner's showing with respect to Herzog, Kirchner, Furman, and Haupt are detailed above and those arguments are reurged herein. With respect to Clark, the examiner has stated:

> Therefore, it would have been obvious to one having ordinary skill in the art to configure the device of Herzog or Kirchner/Herzog or Herzog/Furman/Haupt with a spraying device of at least .02 gallons per square yard as suggested by Clark. *Doing so would provide a way to optimize the spraying range for the system* (column 1, lines 36-46).

Examiner's June 3, 2003, Office Action, p. 6 (paper no. 14).

The examiner contends that adopting the application rates suggested by Clark[5] would "optimize the spraying range of the system." The examiner has cited column 1, ll. 36-46 of Clark for this proposition, the only basis he provides for combining Clark with the other references. However, the applicant has reviewed this portion of Clark and can find nothing in it, or in the rest of Clark for that matter, which suggest that the application rates listed in Clark would optimize the spraying range of the device disclosed in Clark.

Clark discloses a rate adjustable spraying system. Nothing in Clark suggests that the rates of application disclosed therein are optimal with respect to the *range* of the Clark sprayer. Rather, the application rates disclosed in Clark appear to simply be typical prior art spray rates to which Clark attaches no particular significance.[6] *See*, Clark at Col. 1, ll. 34-42 and Col. 4, ll. 59-67.

---

5. As noted above, Clark does not suggest application rates anywhere near 0.02 gallons per square yard. The examiner's assertion to the contrary appears to be wholly unfounded.

6. The applicant notes that Clark indicates typical prior art application rates to be substantially higher than the rates recited in the rejected claims. Thus, if anything, Clark is indicative of the non-obviousness of the applicant's invention as set forth in

Thus, the examiner's purported basis for combining Clark with the other references lacks support in the prior art. This is yet another reason why the examiner's *prima facie* case for obviousness is not well established.

Finally, the examiner makes the bald statement that "the spraying rate of .02-.08 gallons per square yard is an obvious matter of design choice to a person of ordinary skill in the art, since the spray rate is depended (sic) on the system pressure, the nozzle opening, and traveling speed of the tanker truck." First, the applicant notes that knowing *how* to vary the spray rate is not the same as knowing *why* variation would be desirable. That a reference can be combined or modified is not enough to establish a *prima facie* case of obviousness; the prior art must also suggest the desirability of making the combination or modification. MPEP § 2143.01. Here, the examiner has not cited any reason why one of ordinary skill in the art would be motivated to modify the prior art to meet the limitations of the rejected claims. Rather, the examiner has simply stated that the modification would have been "an obvious matter of design choice to a person of ordinary skill in the art." This is simply insufficient to meet the examiner's *prima facie* burden. MPEP § 2143.01.

C. <u>The Examiner's Rejection of Claims 7-8 and 19-21 in View of Herzog, Kirchner, Furman, and Haupt under § 103</u>

Claims 7-8 and 19-21 include limitations pertaining to the size of the orifice in the recited nozzle. The examiner has rejected these claims under 35 U.S.C. § 103 in view of Herzog, Kirchner, Furman, and Haupt.[7]

---

claims 5, 6, 17 and 18.

7. The arguments raised above by the applicant regarding the combination of these references are equally applicable here, and are reurged herein.

Claims 8 and 21 recite a functional limitation[8] on the size of the spray nozzle orifice, i.e. that it be larger than the diameter of polymer balls which can clog the nozzle. Claims 7, 19 and 20 address the same issue, the size of the nozzle orifice; however, they do so with structural rather than functional language. The examiner has conceded that the limitations contained in these claims are not found in the prior art. Examiner's June 3, 2003, Office Action, p. 6 (paper no. 14). Nonetheless, the examiner has maintained his rejection of these claims, contending that they are "obvious matter(s) of design choice." Id., at p. 6. The examiner cites no authority explaining how merely calling something a "design choice" suffices as a *prima facie* showing of obviousness.

The examiner cannot simply disregard limitations that effect the function or operation of the claimed invention. This is made clear in the MPEP at § 2144.04 IV(A), which sets out the standard for evaluating sizing requirements. The relevant case cited therein is Gardner v. TEC Systems, Inc., 725 F.2d 1338 (Fed. Cir. 1984). In Gardner, the Federal Circuit upheld the district court's finding of obviousness because (1) the only difference between the prior art and the claimed device was a recitation of relative dimensions[9], and (2) a device having the claimed dimensions *would not perform differently* than the prior art device. Gardner, 725 F.2d at 1349 (emphasis added). The same cannot be said for the present case. A device having the size limitations of the nozzle orifice would perform differently from the prior art; polymer balls would not get stuck in

---

8. Of course, there is no prohibition against claiming limitations functionally, i.e., by what they do rather than what they are. MPEP § 2173.05(g).

9. The applicant is not conceding that the only difference between the claimed invention and the prior art is the sizing of the orifice. Rather, this argument is presented in the alternative only, as it is unnecessary to reach these issues until the examiner establishes a proper *prima facie* case with respect to the independent claims, as discussed above.

the nozzle of the claimed invention as frequently occurs in prior art devices, and the claimed device would, therefore, dispense tack more evenly. Because a tack applicator having an orifice of the claimed size would perform differently than tack applicators known in the prior art, the examiner cannot simply disregard these limitations, as he has attempted to do.

In sum, the examiner has cited no references which teach or suggest the limitations of claims 7-8 or 19-21. Accordingly, he has not met his *prima facie* burden with respect to these claims, and his obviousness rejection should be overturned for them as well.

D. <u>The Examiner's Rejection of Claims 9-11 in View of Herzog, Kirchner, Furman, and Haupt under § 103</u>

The examiner rejected claims 7-11 and 19-21 as a group in entering his rejection. Accordingly, the applicant's arguments with respect to claims 7-8 and 19-21 are equally applicable here, and they are reurged with respect to claims 9-11. The following comments pertain to claim 9 and its dependent claims.

Claim 9 recites a solution to the problems posed by polymer balls. Polymer balls form in tack with some frequency. After forming, they can become lodged in the spray works. Once lodged, they will collect other polymer balls, tack, and generally form clogs. The applicant addresses this problem in claim 9 by making the spray nozzle orifice large enough to allow polymer balls to pass without clogging the spray nozzle. The examiner contends that one of ordinary skill in the art would provide the optimal values for the orifice diameter (optimal for what, he doesn't explain) and then control other factors to minimize the build up of polymer balls in the tank. Examiner's June 3, 2003, Office Action, p. 7 (paper no. 14). In essence, the examiner has suggested another possible solution to the polymer ball problem - preventing their formation or

controlling their size.

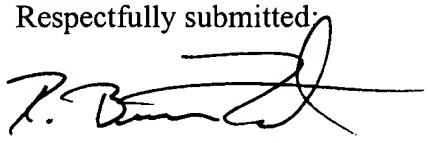
The applicant expresses no opinion as to whether the examiner's proposed solution might work. However, the applicant fails to see how the possibility of an additional, but different, solution to the polymer ball problem, such as the one suggested by the examiner, renders the applicant's solution recited in claim 9 obvious under § 103.

The examiner has cited no reference that even discusses the existence of a polymer ball problem in the application of tack, much less a reference that suggests a solution to this problem. More importantly, the examiner has not cited a reference which teaches or suggests all of the limitations of claim 9 or the claims dependent thereon. Accordingly, the examiner has not met his *prima facie* burden with respect to these claim, and his rejection under § 103 should be withdrawn.

IX. Conclusion

For the reasons stated above, the examiner's rejections should be overturned and the claims remaining in the application should be allowed.

Respectfully submitted,



Dated: September 30, 2003

R. Bennett Ford, Jr.
Registration No. 39,193
ROY, KIESEL, KEEGAN & DeNICOLA
2355 Drusilla Lane
P.O. Box 15928
Baton Rouge, LA 70895
(225) 927-9908

Appendix

1. A tack spraying device mountable on a vehicle comprising:

an engine having an exhaust pipe for emitting exhaust gases during the operation of the engine, the engine being mountable to the vehicle,

a storage tank for maintaining tack material stored in the storage tank under pressure during operation,

a first line connecting the exhaust pipe of the engine to the storage tank in a manner to permit transfer of the engine exhaust to the interior of the storage tank and to serve as a source of the pressure within the storage tank, and

a second line connecting the storage tank to a spray nozzle in a manner to transfer the tack material in the storage tank to the spray nozzle.

2. A tack spraying device according to claim 1 wherein a pressure relief valve is operative attached to said storage tank to relieve the pressure in the storage tank at a pre-determined pressure level.

3. A tack spraying device according to claim 2 wherein the predetermined pressure level is about 4 psig or greater.

4. A tack spraying device according to claim 2 wherein the predetermined pressure level is about 14 psig.

5. A tack spraying device according to claim 2 wherein the predetermined pressure level is set a pressure sufficient to transfer the tack material from the storage tank to the spray nozzle at a rate of at least 0.02 gallons per square yard.

6. A tack spraying device according to claim 5 wherein said rate is between 0.02 and 0.08

gallons per square yard.

7. A tack spraying device according to claim 1 wherein the spray nozzle has an orifice with a nominal diameter of at least 0.375 inches and has a capacity to permit at least 14 gallons per minute of tack material to flow through the orifice at a pressure of at least about 3 psig with a spray angle of at least 75°

8. A tack spraying device according to claim 1 wherein the spray nozzle has an orifice with a nominal orifice diameter greater than any polymer ball that may develop in the storage tank during spraying of the tack material.

9. A tack spraying device having a tack material storage tank and a line operatively attached to the storage tank and a spray nozzle to permit tack material in the storage tank to flow to and through the spray nozzle, the improvement to which comprises the spray nozzle has an orifice with a nominal orifice diameter greater than any polymer ball that may develop in the storage tank during spraying of the tack material.

10. A tack spraying device according to claim 9 wherein the spray nozzle has an orifice with a nominal diameter of at least 0.375 inches and has a capacity to permit at least 14 gallons per minute of tack material to flow through the orifice at a pressure of at least about 3 psig with a spray angle of at least 75°.

11. A tack spraying device according to claim 10 wherein said capacity is set to permit about 14 to about 140 gallons per minute of tack material to flow through the orifice.

12. A tack spraying device according to claim 1 wherein the engine drives the vehicle.

13. A motorized tack spraying vehicle comprising an engine-driven moving vehicle, said engine having an exhaust pipe, a tack material storage tank mounted to the vehicle for maintaining

tack material stored in the storage tank under pressure during operation, a first line connecting the exhaust pipe of the vehicle engine to the storage tank in a manner to permit transfer of the engine exhaust to the interior of the storage tank and to serve as a source of the pressure with the storage tank, and a second line connecting the storage tank to a spray nozzle in a manner to transfer the tack material in the storage tank to the spray nozzle.

14. A motorized tack spraying vehicle according to claim 13 wherein a pressure relief valve is operative attached to said storage tank to relieve the pressure in the storage tank at a pre-determined pressure level.

15. A motorized tack spraying vehicle according to claim 14 wherein the pre-determined pressure level is about 4 psig or greater.

16. A motorized tack spraying vehicle according to claim 15 wherein the pre-determined pressure level is about 14 psig.

17. A motorized tack spraying vehicle according to claim 15 wherein the predetermined pressure level is set a pressure sufficient to transfer the tack material from the storage tank to the spray nozzle at a rate of at least 0.02 gallons per square yard.

18. A motorized tack spraying vehicle according to claim 17 wherein said rate is between 0.02 and 0.08 gallons per square yard.

19. A motorized tack spraying vehicle according to claim 13 wherein the spray nozzle has an orifice with a nominal diameter of at least 0.375 inches and has a capacity to permit at least 14 gallons per minute of tack material to flow through the orifice at a pressure of at least about 3 psig with a spray angle of at least 75°.

20. A motorized tack spraying vehicle according to claim 19 wherein said capacity is set to

permit from about 14 to about 140 gallons per minute of tack material to flow through the orifice.

21. A motorized tack spraying vehicle according to claim 14 wherein the spray nozzle has an orifice with a nominal orifice diameter greater than any polymer ball that may develop in the storage tank during spraying of the tack material.